OLDMAN BOILER WORKS
32 Illinois Street
Buffalo
Erie County
New York

HAER No. NY-272

HAER
NY
15-BUF
41-

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN ENGINEERING RECORD
National Park Service
Northeast Region
Philadelphia Support Office
U.S. Custom House
200 Chestnut Street
Philadelaphia, P.A. 19106

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HISTORIC AMERICAN ENGINEERING RECORD

OLDMAN BOILER WORKS HAER NO. NY-272

Location:	32 Illinois Street Buffalo, Erie County, New York UTM: 17.673540.4748850 Quad: Buffalo Southeast, New York
Date of Construction:	1907, 1918, 1951
Architect	W.H Zawadzki (1907, 1918); John G. Schwartz (1951)
Present Owner:	Edward Berger dba Oldman Boiler Works
Present Use:	Boiler and related manufacture, erection, and repair.
Significance:	This small complex is associated with the growth of Buffalo as a national industrial center and major Great Lakes port. In addition to its boiler repair and fabricating capabilities, Oldman also serviced lake vessels and manufactured a patented "fairlead" used on those ships. The buildings embodied changes in methods of constructing boiler repair facilities. The complex houses significant machinery representative of early 20th century boiler making practices.
Project Information:	The entire Oldman complex will be demolished for construction of the Crossroads Arena project. As a mitigation measure documentation to HAER standards was stipulated as part of negotiations among several parties including the NYS Urban Development Corporation and the NYS Office of Parks,Recreation, and Historic Preservation.

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Oldman Boiler Works, located at 32 Illinois Street in Buffalo, New York, is one of the most enduring marine boiler construction and repair companies still operating on the Great Lakes. The main boiler shop, constructed of reinforced masonry, was erected in 1907 as the permanent location of a business begun in 1863. Oldman Boiler Works later built two extensions, a frame office and machine shop complex in 1918 and a concrete block fabricating shop in 1951. Today the somewhat L-shaped complex runs 125' along its east elevation facing Illinois Street, then 206 feet west to Indiana Street. The west elevation housing the 1951 addition is 100 feet wide. The discrepancy between east and west elevations is due to the extra width of the 1918 office/machine shop. The latter building is only 100 feet deep, running west from Illinois Street. The entire site is on the west side of Illinois Street, directly across from the surviving buildings of several companion boiler and machine shop operations that in 1994 were collectively designated by the City of Buffalo as the Cobblestone Historic District.

Oldman Boiler Works was the formal outgrowth of a business begun in 1852 by British immigrant William Oldman. Born in Scotland, January 5, 1823, William and his family emigrated to the United States in 1833. They settled first in an unidentified location, then William moved to Buffalo sometime between 1844 and 1846.

Upon his arrival, Oldman began his career as a boiler maker at the Buffalo Steam Engine Works, later moving to the Shepard Iron Works after it was organized in 1847. In 1856 he became foreman at Shepard, a position he held for over 15 years. The Shepard works were located on Ohio Street near Chicago Street in South Buffalo and included a boiler shop that manufactured boilers for some of the largest passenger steam ships on the Great Lakes, including the *Southern Michigan*, the *Queen of the West*, the *Crescent City*, and the *Northern Indiana*. It was at Shepard that Oldman clearly obtained his considerable experience in boilermaking that would endure through the remainder of his professional life.[1]

In a common practice for the time, William Oldman established his own small business even while employed by Shepard Iron Works. Would-be independent craftsmen or entrepreneurs often sublet facilities within their employers' shop or ran separate, non-competing operations elsewhere in an effort to create their own businesses and gain protection from their employers' business reverses. In 1852 William Oldman received a 20-year lease from Caleb Coatsworth for a 40 x 100' space on Perry Street west of Alabama Street. For rent of $12 per year and payment of the "ground rent" or property taxes, Oldman was to have use of the site for, presumably, a small shop operation since his residence was on another nearby street. In 1865 Oldman ceded the lease to a

Betsey Goodridge, although agreeing to continued payment of taxes, as his commitment to Shepard Iron Works appeared more secure.[2]

Five years later in 1870 Oldman tried his hand at independence once again, establishing his first shop on Illinois Street where his family business would grow and change over the next century. This shop was on the west side of Illinois 80 feet south of Perry Street. In 1874 Oldman employed only 8-10 hands at peak production, considerably less than other shops in the area. By comparison in that same year, the successor to Shepard Iron Works, Geo. Tifft & Son, had relocated to Indiana Street, a block west of Illinois, and was employing 100 men in its operations. Simultaneously, a new machine shop, Farrar & Trefts, opened at the corner of Perry and Illinois street, manufacturing engines and boilers of all kinds. They employed 15-30 hands in their boiler department plus an unspecified number more in their engine-making section. Although business was slow at times, William Oldman's boilermaking operations on Illinois endured in various Illinois Street locations, and he withdrew from employment in other shops to concentrate on building his own business. His wife, Jane, apparently participated in his endeavors, since in 1876, it was she who permanently secured the first Illinois Street site from what appears to be a silent partner, Sumner W. White.[3]

William and Jane had two sons, Thomas and William N. Oldman. The latter was often cited inaccurately as William Jr., but it was he who carried on the family business most vigorously, although both men were engaged in the boiler trade. The two sons, in time-honored tradition, practiced the boiler trade not only in their father's shop but elsewhere. They did not have far to go, however, since both of them eventually became employed at Farrar & Trefts, the neighboring shop. William N. became superintendent there and Thomas was his assistant. However, by 1888 Thomas had departed from Buffalo, and it appears that he spent his career in Erie, Pennsylvania, home of a large number of very prominent boiler manufactories.[4]

Sometime before the turn of the century, the elder William Oldman sold the property on Illinois to Farrar & Trefts but continued the boilermaking business at another unknown location. William N. continued at the neighboring shop even after Thomas' departure, and the two men, father and son, built their reputations as Buffalo boiler manufacturers.

In 1900, while William N. Oldman was still superintendent at Farrar & Trefts, his son, Edward, then 25 years old, joined with boilermaker Joshua D. Cousins to form Oldman & Cousins, an independent boilermaking business. They and several other men established a shop briefly at 29 Burwell Place in Buffalo. In 1901 William N. Oldman joined Edward and Joshua, and the three men continued Oldman & Cousins at 38-40 Illinois Street. In February William N. Oldman purchased the property from Nicholas and Louisa Mock and the same day William and his wife, Mary sold one-third interest in the parcel to their son, Edward and another third to

Joshua Cousins. In May, the three partners received a building permit declaring their intention to erect a 1-story frame boiler shop, and by June 13, 1901 the building was complete. This shop and the property lay just north of the site which later housed their permanent brick shop.[5]

Difficulties arose almost immediately. The frame boiler shop was completed by June 13, 1901 at which time the three partners in Oldman & Cousins were served with a lien on the property for failure to pay $600 for lumber and building materials. Business at this point was apparently not good either, and in 1902 Joshua Cousins and his wife, Lucy, sold their third share in the business and property back to William N. and Mary Oldman.

The endurance of Oldman & Cousins was also therefore short; in 1902 when Oldman Boiler Works was formally incorporated, Cousins was no longer involved. The three incorporators and sole stockholders included William N. Oldman, his wife, Mary, and the elder William Oldman. The son held controlling interest with 80 shares while his father and wife held 5 shares each.[6]

In 1901 William N. Oldman had patented a novel boiler design. It was a firetube-type, rectangular boiler, known in the trade as the "doghouse" boiler due to its shape. This patent became the backbone of the company's boiler production during the early years, with no fewer than nine different versions designed, constructed, and sold to Great Lakes steamers. Oldman's advertising claim was: "less fuel, less room, cheapest and most durable boiler made."[7]

Despite this success and the endurance of the business, the younger William had problems he could not overcome. For 15 years he had been plagued with poor health which worsened in 1902 and 1903. Furthermore, for undisclosed reasons, Oldman Boiler dissolved as a corporation September 4, 1903. Five days later, on the morning of September 9, William N. Oldman died by his own hand, ending a promising career at age 48.[8]

A week after William N. Oldman's death and 13 days after corporate dissolution, the company deeded the 50-foot wide Illinois Street property to Mary Oldman for $1.00. For an additional $100, Mary Oldman then acquired, in her own name, another portion immediately south of the original purchase, creating a lot 75' wide, 100' deep. The next year, December, 1904, Oldman Boiler was reincorporated with Mary Oldman as controlling partner holding 40 shares while son Edward had 5 shares along with another boilermaker, Frank Tollon who also had 5 shares.

The participation of Tollon must have been a bonus to the widow and young son, both of whom were still comparatively inexperienced at the boilermaking and repair business. The elder William was "in retirement" - he was 81 years old and in poor health - and was likely not physically able to direct the course of daily business. Tollon, however, had been the proprietor of the Twin City Boiler Works in nearby suburban North Tonawanda and was the perfect choice to be recruited as superintendent for the Oldman's works and to get the business restarted.

In 1907, Mary Oldman sold both parcels of real estate back to the reconstituted Oldman Boiler Works for just the $1.00 she paid for the first lot. Six days after the transfer, Oldman Boiler Works secured its permit to construct a "1-story brick boiler factory" which established the company's existence as a permanent and prominent fixture within the nation's Great Lakes boiler repair industry.[9]

Edward at this time was still learning the whole of the trade and was formally employed as a manager with Farrar & Trefts. He did not actually join Oldman Boiler Works exclusively until 1910 although he served as President and Treasurer of the Board of Directors even while at the neighboring boiler shop. From 1910 until his death in 1952, Edward Oldman remained the company's active head.

In 1908 Edward patented a fusible plug to improve the fitting of a boiler and its crown sheet. The patent was filed in 1907 while Edward was still superintendent at Farrar & Trefts, but the patent rights remained his and, presumably, were used at Oldman Boiler Works.[10]

During the 45 years that Edward directed the company, 1907 to 1952, Oldman Boiler Works developed an extensive marine repair and construction business. Although the company fabricated parts and boilers for shipyards in Florida, Maine, and on the West Coast, the bulk of their operations remained based in Buffalo. Their focus as a company remained primarily oriented to the extensive Great Lakes shipping repair operations they had inaugurated in the 19th century. Ninety per cent of the Great Lakes fleets used Oldman's repair services to make necessary modifications and replacements of damaged or worn out equipment. During the winter months when the "lakers" were laid up in Buffalo, Oldman Boiler Works assisted in hull repair. By 1967 they were the nation's sole surviving marine repair firm to provide this service.

In addition, Oldman Boiler Works created a far-flung operation constructing non-marine equipment and providing field operations for on-site erection and finishing of customers' orders. They created pressure vessels, smokestacks, tanks and other equipment for hundreds of non-marine, land-based industries in the Buffalo area and across the country. On of the company's most atypical yet noteworthy accomplishments was the construction of the city's first iron lung in the 1920s for Buffalo City Hospital.[11]

The business was so successful that the company needed to expand. They constructed an addition in 1918 to house new office space and create a separate machine shop. Then, in July, 1925 the company purchased the boiler works directly behind them on Indiana Street. The Indiana Street shop had originally been the home of Phoenix Boiler Company owned and operated by the Donaldson family. It later was sold to two partners, John H. Howard and Thomas

Roberts, and was known as Howard & Roberts. After Howard's death, Oldman acquired not just the property but also the "machinery, equipment, tools, scrap iron, and boilers now on said premises," thereby extending their production capacity nearly twofold. In 1939 a second adjoining lot was acquired by Edward Oldman personally which he then sold to the company in 1951. The old Phoenix building was demolished, and together the two lots made it possible for Oldman Boiler to construct a much larger and more modern addition.[12]

In 1952 at Edward's death, his son, Nelson, became president of the firm. Like his father, Nelson Oldman began his career in boilermaking being "apprenticed" outside the family firm. Sailing for a time on Great Lakes vessels, Nelson then spent two years working in Erie, Pennsylvania for Erie City Iron Works, one of the country's largest and most reputable boiler manufacturers. Nelson joined the family's Buffalo operation in 1921, became general manager in 1942, and was selected as president in 1952 following his father's death.[13]

When Nelson Oldman died in 1975, there were, finally, no interested family members to carry on. A former employee of the company, John Takacs, headed a three-person group that purchased the company outright but retaining the famous name of its original founding family. General declines in business made the succeeding 13 years difficult, and Takacs considered closing the decades-old business. Instead, yet another Oldman worker, Edward Berger, headed an all-employee group which secured financing and bought Oldman from Takacs December 30, 1988. That same day, Berger amended the corporation's certificate of incorporation and acquired the property himself as the sole stockholder. He continues the company's basic operations, but, with a decline in marine traffic to the Port of Buffalo, the company has necessarily had to place greater emphasis on the non-marine production and field assembly work than ever before.[14]

History of Marine Boiler Making Trade

Oldman Boiler Works was well located: 32 Illinois Street was and is one block from the Buffalo River, the banks of which were replete with the city's grain elevators, flour mills, and other water-dependent industries. Oldman's shop was close to the junction of the inner and outer harbors. Headed south, ships sailed to the steel, coke, and cement plants along the lake shore; north, parallelling the Niagara River, ships and barges plied the navigable Black Rock Canal servicing the lumber industry, the power plants, and the fuel depots of the northern suburbs.

Oldman's proximity to the Great Lakes and canal shipping gave founder William Oldman an entree to a time-honored trade that flourished along with the very beginnings of the Industrial Revolution. The 18th-century British discoveries in steam power made by James Watt and others, followed by refinements in land-based, steam-powered transport, naturally gave rise in the early 19th-century to maritime adaptations. The 1807 trials of the *Clermont* on the Hudson River were made with engines and boilers supplied by Bolton & Watt, the company founded in Birmingham, England by Matthew Bolton and James Watt. Over the next five decades, improvements led manufacturers away from the original but highly costly copper boilers to wrought iron boilers then to boilers with steel as the basis for the shell and components.[15]

As materials changed, so did designs, and by the late 19th century, sophisticated boiler construction was well established. The generation of steam power is simple: the boiler turns water to steam which in turn powers the engine that drives the stationary or marine mechanisms. On land or even rail, boilers could vary enormously in size and number, but on sea, ranges in boiler design were far more restricted. These latter boilers had to be adapted to the space and weight limitations of holds on ships. The former problem was more easily solved than the latter, for more compact designs were fairly easily established. The leading developer of marine boiler design was not the Americans or English but the Scots. Boiler manufactories on the River Clyde developed what would become the prevalent design, therefore known as the "Scotch" marine boiler.

The Scotch boiler was a "firetube" boiler in which the internal flues or tubes carried the products of combustion (heat and gas) through the surrounding water contained in the outer shell. Further, since the box-like design of stationary land-use boilers was inadequate aboard cramped ships, this design was replaced with horizontal cylindrical boilers that needed no external bracing. Because of this new form, Scotch boilers were also known as "drum" or "tank" boiler.[16]

The Scotch boiler became the mainstay of the marine trade for nearly a century and survived the encroachments of its rival, the watertube boiler well into the 20th century. The advantages of the watertube boiler lay chiefly in weight; rather than carrying the full water supply in the surrounding shell, watertube boilers consolidated the water supply within the tubes and made the outside shell the environment for combustion. By reducing the overall boiler weight through reducing the amount of water needed to be converted to steam, not only were overall weights diminished but the pressure capacities of the boilers could be increased.[17]

The U.S. Navy pioneered the way for the widescale introduction of watertube boilers with higher pressure capacities. The demands for speed necessarily required a reduction in weight, and, by the 1930s, similar demands for economy were affecting the marine fleets as well. The watertube boiler had key advantages in: concentrated boiling-water capacity; greater structural strength in water tubes than in large water-filled boiler shells; more rapid steaming and therefore more rapid response, and the elimination of numerous repair portholes and the saving of materials and costly designs; greater flexibility in burner arrangements. Thus, both the Scotch firetube and the newer watertube boilers became familiar facets of the Great Lakes boiler manufacture and repair trade before World War II.[18]

There were several critical elements that affected the design, safety, and operation of marine boilers that transcended their particular design. They can be summarized as a series of constants: quality of boiler plate; quality and design of tubes whether for water or fire; quality of seam bonding whether riveted or welded; precision in the production steps including flanging, forming, punching, and cutting.[19]

These were the issues that affected boiler shop production. Regardless of size, boilermakers had to contend with the creation or reconstruction of the varied aspects of marine boiler design and structure. Even a shop as predominantly oriented to repair work as Oldman had to be conversant with the full range of boilermaking operations, design specifications, and production techniques.

By their own report to the American Boiler Manufacturers' Association in 1924, we learn that Oldman was adept at the creation of original stacks and breechings, at heavy metal and plate work, and at repair work on any and all boilers of any make. Thus, the company had to have command over all the processes of manufacture plus knowledge of each specific boiler type that might make its presence known in the Buffalo Harbor.

That same year Oldman's skills were carefully scrutinized due to an accident aboard the steamer *Panay* which had a boiler explosion near Marquette, Michigan. The accident killed the ship's fireman. Oldman Boiler Works had repaired the steamer's furnaces and tubes during the winter of 1922-23, making their workmanship an issue in the explosion inquiry. Fortunately, neither element was a factor in the explosion, since it was attributed to faulty safety valves and to faulty wrapper sheets (the boiler hull) which were seriously deteriorated. Neither of those factors had involved Oldman Boiler's workmanship or materials.[20]

The Work of Boiler Making

The basic step in boiler production was laying out boiler sheets that would be cut and assembled into a finished product. Developed sheets visually represent the design engineers ideas, and give every member of the shop workforce a picture of the overall assembly operation. In most shops, however, laying out was the province of a small number of workers and was usually confined to a particular area of the shop. Consequently, work quickly became specialized, and the well-rounded boilermaker was rare.

Once the pattern has been delivered to the shop through customer blueprints, it has to be translated onto the steel plate and into the components. Oldman had a laying out area and employed a small staff of generally two layers-out. They drew the patterns on the appropriate steel plate - the diameter of the shell, the length of grate, size and number of furnaces, size and quality of steel plates, size and location of drill holes, etc. - then passed the designs on for cutting and assembly. By the later decades of Oldman's operations, such detail had been remarkably simplified; patterns were drawn on the floor by the person creating the specific product, and even drill holes were drawn directly on the workbed of the radial drill.[21]

Shortcuts represented not a loss of knowledged but an adaptation of significant skill. Work saving practices have had a long history within machine shops; devices adapted and adopted by workers to save themselves time and effort (and thereby save their employers money), were known in the trade as "kinks." Generally a "kink" is a device or appliance, but the principle holds true for innovative processes as well. At Oldman the representative "kink" is the home-made welding strength tester in the 1918 tool room which was cobbled together successfully from spare I-beams and outfitted with gauges and compression systems made by the shop staff.[22]

The actual steps involved in the creation of the finished product were those familiar anyone in the general machinists' trade: shaping, planing, turning, bending, flanging, riveting, welding. Over the two centuries of boiler making, the work progressed from hand operations to increasingly mechanized operations. The early boiler plates were iron, were small, and were not only shaped by hand but were riveted with innumerable seams. Bending, flanging, and riveting were also done manually since there were no hydraulic machines or rivet guns available. Further, there was resistance within the industry to the use of new machined methods of production, and not every shop willingly gave way to the innovations.[23]

One of the critical advances made in both the speed of assembly and the safety of design in American boilers came from the introduction of welding as a replacement for riveting. Oldman Boiler was an early leader in the use of this new technology which promised to reduce the numbers of boiler explosions caused from weakened and insufficiently riveted seams.

Welding was made possible from the German discoveries of Dr. Karl Von Linde who in 1895 perfected the cryogenic method of separating oxygen from air making oxygen available in larger quantities than through other chemical methods of separation. Linde established a production facility in Buffalo, New York in 1907, the year Oldman constructed its boiler shop, and in 1911 Linde joined forces with Union Carbide to produce and promote oxy-acetylene for welding which was popular in Europe but virtually unknown in the United States.[24]

The only manner of construction practical before the introduction of oxy-acetylene welding was riveting. Early welding employed solder which was completely insufficient to hold boiler seams under pressure. However, the costs for riveting were high both in terms of labor time and materials. Riveted joints often required the overlap of three separate sheets of boiler plate to assure that the joints were steam tight. This clearly increased the overall weight of the boiler. Furthermore, riveted seams and joints simply were not foolproof. The introduction of the hydraulic rivet gun, the "Bull" did speed the rate of production over hand riveting and provided more uniform, more reliably tight rivets that needed little or no caulking. The rivet gun therefore saved considerably on labor time, but, despite more consistent production standards, riveting in general remained inefficient and could not fully eliminate the metal fatigue cracking around rivets that caused so many boiler failures.[25]

With the introduction of Union Carbide's oxy-acetylene gas for welding torches, the improvements in both welding and also cutting operations quickly became apparent. The intense heats of up to 6300° produced what was known as "autogenous welding" in which the two separate plates of steel would be fused by application of the flame at temperatures much higher than the steel's melting point. Prior to fusing the plates together, seams could also be beveled by the oxy-acetylene torch, saving time that was usually required to prepare the plate with chisels and air hammers. Cold-rolled plate bending, one of the main processes in boiler construction, could also be improved by the use of oxy-acetylene torches to pre-heat the plate without furnaces.

On the other side, what expedited construction also improved demolition; torches were the first truly practical method of cutting scrap quickly in preparation for repairs or disposal. In 1911 oxy-acetylene welding plants were set up and used by the U.S. Navy in Havana, Cuba to salvage the *Maine*.

The successor to oxy-acetylene came quickly. Electric arc welding substituted a high-intensity electric impulse for the gas-fired flame to produce improved results. These arc welders were introduced c.1910 and quickly caught on in a number of boiler shops.[26]

The drawbacks to welding of either type for full-scale marine boiler production lay not in the process but in the conservatism of the regulatory agencies and manufacturers' trade associations. Regulatory bodies were comparatively new and had been created only during the early 1900s - the Progressive Era - to halt the abuses of production and safety practices rampant in late 19th century industries. Manufacturers' associations existed to weed out cheaper competitors by maintaining standards that were often too expensive for small shops to achieve. In both cases, there were some marked improvements for the consumer, and the skilled fabricators in the boiler industry benefitted from tough standards generated by groups such as the American Society of Mechanical Engineers.

Not until 1935 did the Bureau of Navigation and Steamboat Inspection authorize the installation of fully-welded boilers and pressure vessels. The use of welding for repairs to vessels, however, was accepted much earlier, and oxy-acetylene or electric arc welding grew popular in repair shops as early as 1916. Welding was a particularly useful method of stopping cracks that had formed around rivets and therefore became a central facet of repair and rebuilding work.[27]

In 1922 Oldman Boiler Works inaugurated a new corporation, a logical extension of their existing business. Since 1907 one of their directors had been Charles D. Magee, a Buffalo resident and proprietor of Marine Welding Co. In 1922 the two companies joined forces as Oldman-Magee Boiler Works chartered to pursue the same business that had characterized Oldman Boiler Works with the added feature of oxy-acetylene welding operations. The company itself survived for only eight years, reverting to Oldman Boiler Works in 1930, but the shop retained the welding services.[28]

In addition to oxy-acetylene welding services, Oldman was one of the country's first shops to adopt electric-arc welding. Originally patrons of Lincoln arc welders, Oldman later developed an enduring arrangement with Miller Electric Mfg. Corp based in Appleton, Wisconsin. Their standard welders and "Trailblazer 5Js" became the mainstay for all of Oldman's production and repair work. In Buffalo, Oldman's business grew as the company successfully promoted welding not just as a convenience but as a safety feature in repairs to ships that might be 50 years old; rusting around the rivets made them unseaworthy, the shop's advertising claimed, and only welding could overcome the hazards. Oldman's expertise in such repairs led shipowners from around the Great Lakes to seek out their assistance.[29]

One of Oldman's other singular accomplishments came from an innovation developed by associate Edward Magee and patented by Oldman: the Oldman "Fairlead". The fairleads were novel designs of a relatively new device for ships: a double pair of sheaves or pulleys fixed along a moveable trunnion within a circular steel flange and installed in a porthole on the upper deck of ships. The fairlead's sheaves fed the cable and hawsers to and from dockside for tie-ups without fraying the ropes or wires. Since the trunnion could rotate 360 degrees. the cables could be directed at proper angles to any point desired. The extension of life for the cables vastly exceeded the costs of the fairlead.

Fairleads were first patented in 1881 but were designed primarily for use on heavy equipment such as steam shovels where the cables encountered constant friction. The application of fairleads to ships was left almost exclusively to the Oldmans.

Originally patented in Canada in 1944 then in the U.S. in 1948, the rights were assigned to Oldman's Canadian production facility, the Port Colborne Iron Works in Ontario about 20 miles east of Buffalo. The Buffalo facility also produced the fairlead, turning out about one per week until 1989. They were widely sold, outfitting ships in North and South America, Europe, and Asia.[30]

Organization of Production

During the company's heyday while shipping traffic in Buffalo was at a high volume, Oldman Boiler employed large numbers of men in several key positions. As of January, 1950, they had fifty-eight Boilermakers, one Punch and Shear operator, fourteen Welders, two Layers Out, and nine Apprentices. With the advent of unionization in which the employees were represented by the International Brotherhood of Boiler Makers, Iron Ship Builders and Helpers of America, the job classifications became more detailed so that mechanics and boilermakers became more specialized in their job descriptions and less all-around mechanics. Skill levels and commensurate pay scales also became more codified, moving from piece work to regular hourly schedules, as did the details of their job, of travel compensation to field assembly sites, hours, and the like. With such a highly-skilled and extensive body of workers available, Oldman could call on 80-100 men from its pool of current and former employees and could respond to any ship emergency or field repair 24 hours per day.[31]

Oldman's customer lists were as extensive as its employee base. They continued to be predominantly a marine boiler and ship repair operation until the late 1960s when shipping in and out of Buffalo declined due to the opening of the St. Lawrence Seaway that by-passed the New York port through Canada and as the grain transfer elevator trade eroded with the loss of preferential railroad rates between Buffalo and New York City's export harbors.

Oldman did not decline, however; as the local marine repair business slowed, other opportunities opened. Oldman continued to provide service and parts to a large portion of the U.S. and Canadian Great Lakes fleet even though it was not being serviced directly in Buffalo.

Oldman also began working more often outside the immediate confines of boiler manufacture. The company had had a long-standing repair and parts manufacturing relationship with Jos. T. Ryerson Co., a large machine tool manufacturer in Chicago. Oldman created replacement items for Ryerson customers on a shop-order basis and continues that relationship to the present. Similar order systems existed with Nelson Oldman's old mentor, Erie City Iron Works in Pennsylvania and numerous other companies.

A sizeable portion of Oldman's business came from both shop orders and field assembly for Buffalo-area businesses. They had contracts with a wide range of industries from Mobil Oil to Bethlehem Steel in nearby Lackawanna. For the latter they constructed both the doors and the hot-metal charging ladle for Bethlehem's Basic Oxygen Furnace constructed in the mid 1960s. They made grain bins for feed millers, exhaust stacks for industries, gas mains for several companies, and high-pressure feedwater heaters for Niagara Mohawk Power Co., the Western New York electrical utility company.[32]

The active business of Oldman Boiler continues in the 1990s albeit with a much reduced workforce of approximately 35-50 people in peak season. There is a much higher proportion of shop work and field assembly on non-marine installations than of marine repair orders; current orders include water tanks, smokestacks and similar pollution-containment structures, parts repairs and the like. Despite the reduction in marine business, Oldman operates successfully as an enduring part of Buffalo's waterfront and business environment.

NOTES

1. Buffalo *Courier-Express*, June 20, 1971, p.41; Scrapbooks, "Local Biographies," 26: 66-67, Buffalo and Erie County Public Library (hereafter cited as BECPL); *Buffalo City Directory*, 1865, 1870, 1875, 1880, 1885, 1890, 1895-99, 1900 (hereafter cited *BCD)*; William Oldman, Death Certificate, Vital Statistics, Buffalo City Hall (hereafter cited as BCH); *Buffalo Evening News*, May 28, 1906, p.1; *The Manufacturing Interests of the City of Buffalo* (Buffalo: C.F.S. Thomas), 62-63; Blueprints for Farrar & Trefts, 1914, Oldman Boiler Works, Lower Lakes Marine Historical Society (hereafter cited as LLMHS).

2. Caleb Coatsworth to William Oldman, Liber 241 (June 5, 1852): 429, Erie County Clerk, Deeds. County Hall, Buffalo (hereafter cited ECC, Deeds).

3. Joseph Saltar and Lucinda Saltar to William Oldman, Liber 342 (August 10, 1870): 263; Sumner W. White to Jane Oldman, Liber 349 (March 25, 1876): 635, ECC, Deeds; *Buffalo Express*, May 23, 1874, p.1.

4. *BCD*, 1877-1888; *Buffalo Evening News*, May 28, 1906, p.1.

5. Nicholas Mock et al. to William N. Oldman, Liber 919 (February 20, 1901): 64; William and Mary Oldman to Joshua D. Cousins, Liber 885 (February 20, 1901): 472; William and Mary Oldman to Edward Oldman, Liber 885 (February 20, 1901): 473, ECC, Deeds; Permit #13112, May 6, 1901, Plans and Permits, BCH.

6. Dohn, Fischer and Beyer Against William W.[sic] Oldman, Joshua D. Cousins, Edward Oldman, "Notice of Lien," June 13, 1901, Oldman Boiler Works Papers, Buffalo and Erie County Historical Society (hereafter BECHS); Certificate of Incorporation, September 17, 1902, Box 10614, Oldman Boiler Works, ECC, Corporations; Joshua D. and Lucy Cousins to William N. Oldman, Liber 937 (August 19, 1902): 496, ECC, Deeds.

7. U.S. Patent Office. *Official Gazette*. 1902: 2723; *Buffalo Evening News*, May 18, 1974, p.C-7; "List of Marine Boilers of the OLDMAN TYPE Now in Use and Under Contract," Advertising Card, Oldman Boiler Works Papers, BECHS.

8. Certificate of Dissolution, September 4, 1903, Box 10614, Oldman Boiler Works, ECC, Corporations; William N. Oldman, Death Certificate, Vital Statistics, BCH; *Buffalo Evening News*, September 9, 1903, p.1; *Buffalo Daily Courier*, September 10, 1903, p.7.

9. Certificate of Incorporation, December 29, 1904, Box 10614, Oldman Boiler Works, ECC, Corporations; Oldman Boiler Works to Mary Oldman, Liber 983, (September 17, 1903):110; Mary Regan et al. to Mary Oldman, Liber 1052 (November 24, 1906): 539; Mary Oldman to Oldman Boiler Works Corporation, Liber 1070 (April 16, 1907): 489; Permit #24191, April 22, 1907, Plans and Permits, BCH.

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15. W.H. McFarland, "History and Development of the Marine Boiler," *The Boiler Maker*, 26/2 (February, 1926): 39-40; Sinclair Couper, "The Evolution of the Scotch Marine Boiler," *The Boiler Maker*, 12/2 (February, 1912): 39.

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18. Capt. C.A. Jones and Lt. Cmdr. T.A. Solberg, "Marine and Naval Boilers," *Boiler Maker and Plate Fabricator*, 35/2 (February, 1935): 44-47.

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27. "Electric Welding and Its Advantages in Boiler Repair," *The Boiler Maker*, 16/6 (June, 1916): 171; "Portable Lincoln Arc Welders," *The Boiler Maker*, 19/1 (January, 1919): 23; P.R. Hawthorne, "Welded Pressure Vessels," *The Boiler Maker*, 29/9 (September, 1919): 267-68; G.H. Koch, "Future of Automatic Arc Welding in Boiler Work," *The Boiler Maker*, 31/2 (February, 1931): 34-35; James W. Wilson, "Welding Pipe and Pressure Vessels," *Boiler Maker and Plate Fabricator*, 36/4 (April, 1936): 87; E.V. David, "Welding and Cutting," *Boiler Maker and Plate Fabricator*, 36/1 (January, 1936): 11-13.

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29. Buffalo *Courier-Express*, June 20, 1971, p.41.

30. Buffalo *Courier-Express*, June 20, 1971, p.41; U.S. Patent Office. *Index to Patents* (Washington, D.C.: Government Printing Office, 1949), 259; U.S. Patent Office, Department of Commerce. *Official Gazette* (March 2, 1948): 109-10. Capt. John C. Murray, *A Directory: International Ship Masters' Association (International Shipmasters Association, 1949), 36, 220, 222.* For a chronology of fairlead patents, the vast majority of which were not designed for maritime use, see *Index to Patents*, 1881, 1899, 1909, 1910, 1919, 1920, 1923, 1924, 1929, 1931, 1933, 1934, 1938, 1940, 1941. 1942, 1945, 1947.

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32. "Shop Orders", 1955, 1957, 1963, 1968, Oldman Boiler Works Papers, LLMHS; "Shop Orders," 1970-79, Oldman Boiler Works Papers, BECHS; interview with Edward Berger, owner, Oldman Boiler Works, July 13, 1994.

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Engineering drawings of Oldman Boiler Works include floor plans for the general complex, plus details of the Boiler Shop, the Office/Machine Shop, and the Fabricating Shop. The 1947 drawing reflect the original extension (Building #2) which was demolished c.1950 and replaced by the 1951 Fabricating Shop.

Engineering drawings exist for several of the company's tools including the radial drill and the plate bending rolls.

Engineering drawings exist for the five different versions of Oldman's patented "Fairleads." Engineering drawings are part of the Oldman Boiler Works Collection, Buffalo and Erie County Historical Society.

Interviews to date have been completed with Edward Berger, owner of Oldman Boiler Works, June and July, 1994; with Paul Keefe, Shop Supervisor June and July, 1994; with Gloria Keefe, Vice President and Secretary of Office Operations, Oldman Boiler Works, June and July, 1994.

SPECIAL COLLECTIONS

Buffalo and Erie County Historical Society	BECHS
Buffalo and Erie County Public Library	BECPL
Buffalo City Hall	BCH
Plans and Permits; Vital Statistics	
Erie County Clerk	ECC
Deeds; Corporations	
Lower Lakes Marine Historical Society	LLMHS

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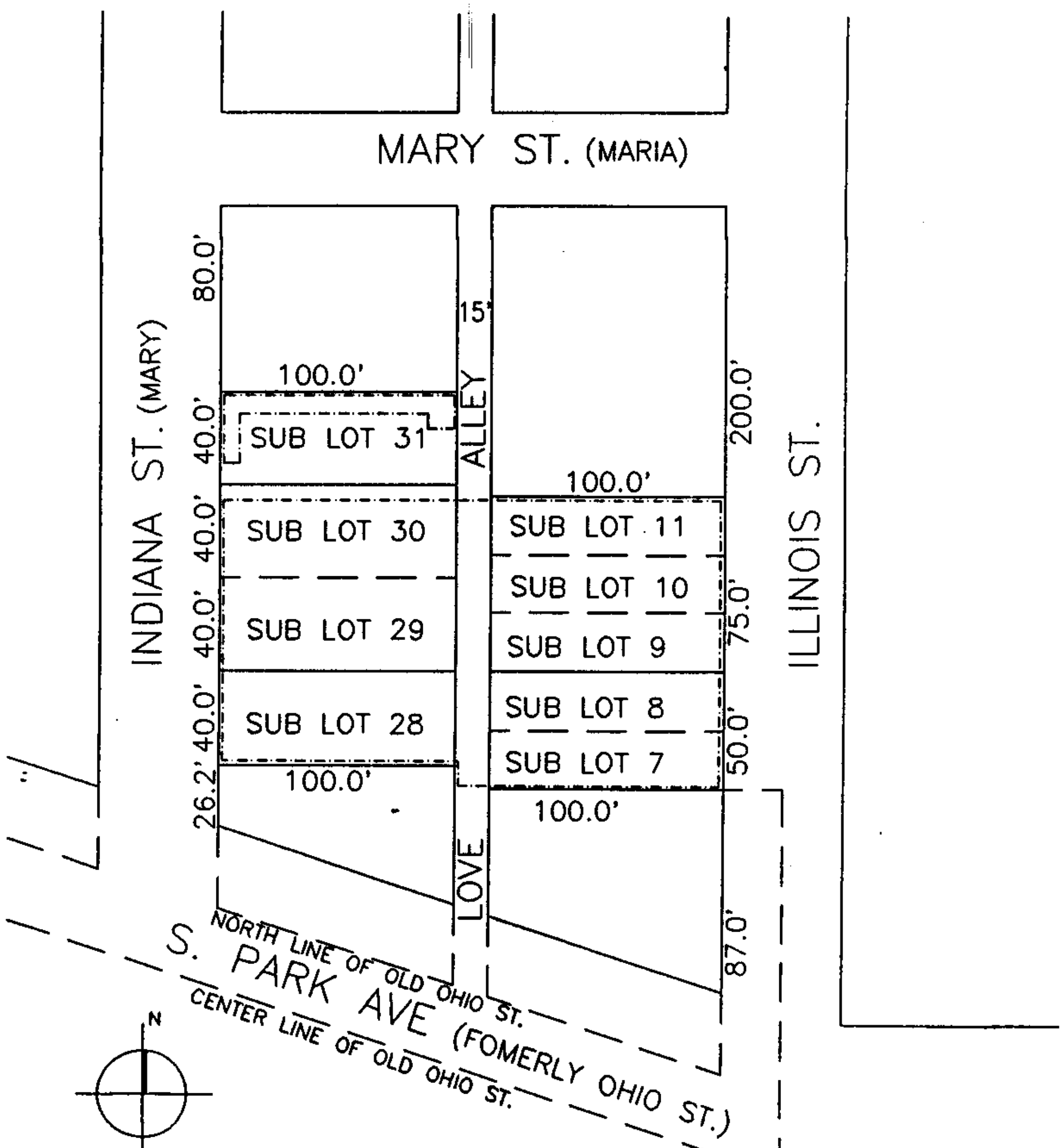
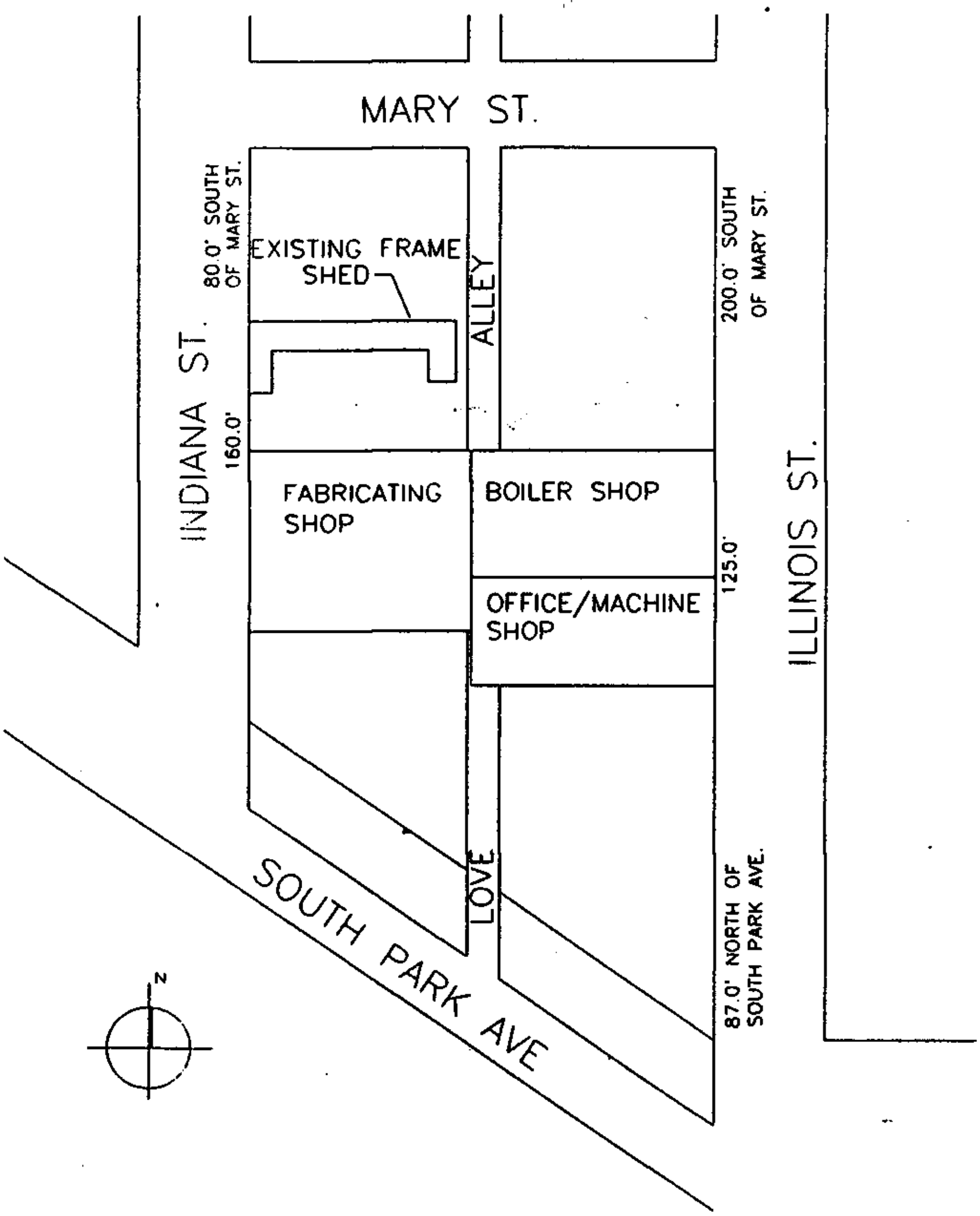
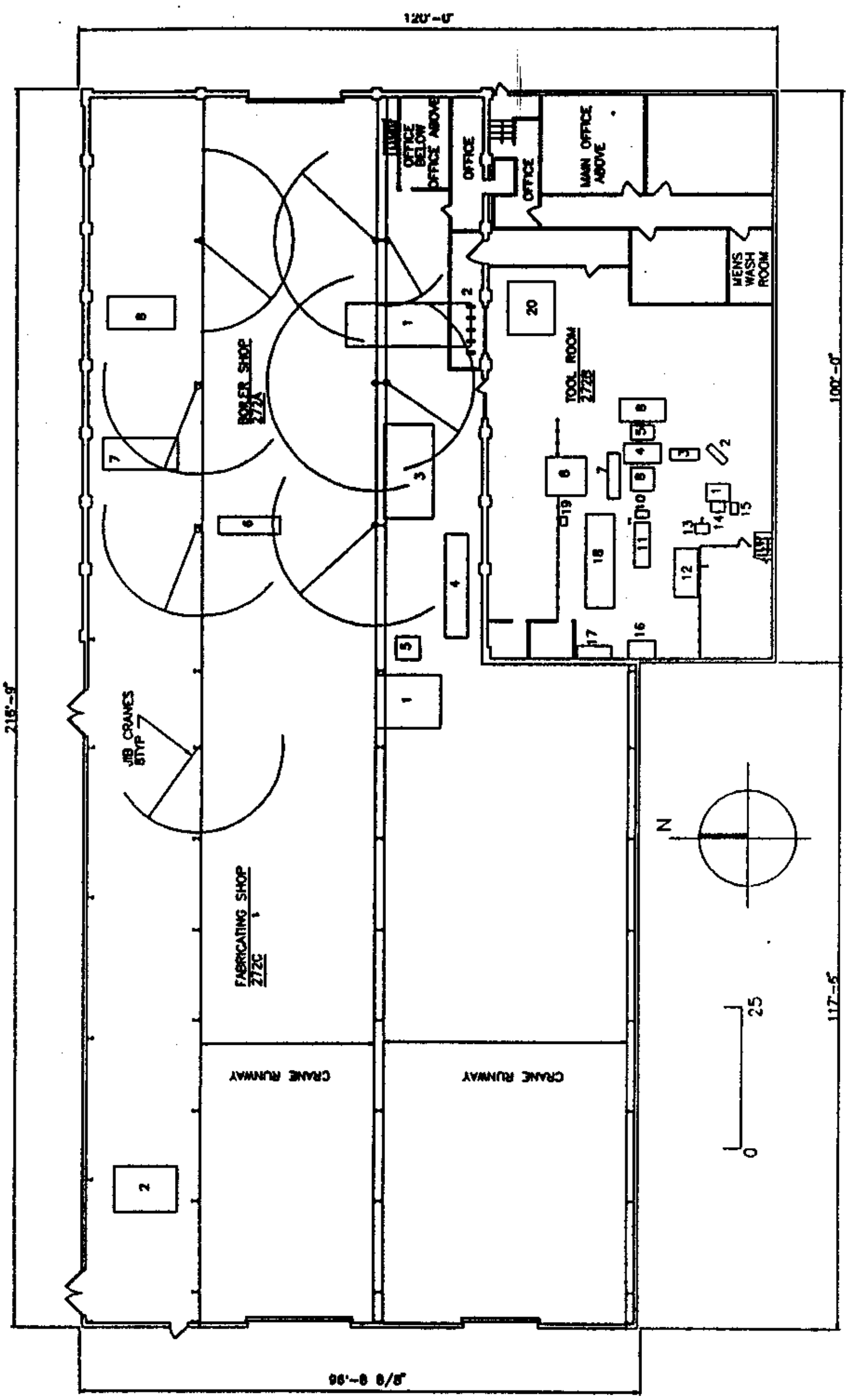

MARY ST. (MARIA)
INDIANA ST. (MARY)
ILLINOIS ST.
ALLEY
LOVE
15'
80.0'
100.0'
40.0'
SUB LOT 31
40.0'
SUB LOT 30
40.0'
SUB LOT 29
40.0'
SUB LOT 28
26.2'
100.0'
100.0'
200.0'
SUB LOT 11
SUB LOT 10
SUB LOT 9
75.0'
SUB LOT 8
SUB LOT 7
50.0'
100.0'
87.0'
NORTH LINE OF OLD OHIO ST.
S. PARK AVE (FOMERLY OHIO ST.)
CENTER LINE OF OLD OHIO ST.
N


MARY ST.
80.0' SOUTH OF MARY ST.
EXISTING FRAME SHED
ALLEY
200.0' SOUTH OF MARY ST.
INDIANA ST.
160.0'
FABRICATING SHOP
BOILER SHOP
125.0'
ILLINOIS ST.
OFFICE/MACHINE SHOP
LOVE
87.0' NORTH OF SOUTH PARK AVE.
SOUTH PARK AVE
N


120'-0"
OFFICE BELOW OFFICE ABOVE
OFFICE
OFFICE
MAIN OFFICE ABOVE
MENS WASH ROOM
BOILER SHOP
272A
TOOL ROOM
272B
JIB CRANES
8TYP
FABRICATING SHOP
272C
CRANE RUNWAY
CRANE RUNWAY
N
25
0
215'-9"
100'-0"
117'-5"

MACHINE LOCATION INDEX

BOILER SHOP 272A

1. LARGE PYRAMIO PLATE ROLL
2. ARC WELOERS
3. SMALL PYRAMID PLATE ROLL
4. EVERETT CUT–OFF SAW
5. WALLACE METAL CUT–OFF SAW
6. AMERICAN RADIAL DRILL
7. GRO. WHITING PUNCH/SHEAR
8. CELVELAND PUNCH AND SHEAR

TOOL ROOM 272B

1. STANDARD ELECTRICAL TOOLS "CADET" GRINDER
2. WILLS METAL BAND SAW
3. ROBERTSON POWER HACK SAW
4. LANOIS BOLT CUTTER
5. OSTER PIPE THRENDER
6. STANDARD – CINCINNATI SHAPER
7. HOMEMADE WELDING TESTER
8. LEBLOND HEAVEY DUTY MILLER
9. BFLO. FORGE DRILL PRESS
10. COLUMBIA MACHINE CO. DRILL PRESS
11. WORKBENCH
12. SIDNEY LATHE
13. CINCINNATI DOUBLE EMERY GRINDER
14. HAMMONS OF KALAMAZOO GRINDER
15. CRAFTSMAN DRILL PRESS
16. DRAFTING TABLE
17. WORK BENCH
18. LEBLOND LATHE
19. BLACK AND DECKER DOUBLE GRINDER
20. KING BORING MILL

FABRICATING SHOP 272C

1. WOOD PRESS
2. BUFFALO FORGE ANGLE ROLLS